Supplementary Appendix

This appendix has been provided by the authors to give readers additional information about their work.

Supplement to: Vora NM, Li Y, Geleishvili M, et al. Human infection with a zoonotic orthopoxvirus in the country of Georgia. N Engl J Med 2015;372:1223-30. DOI: 10.1056/NEJMoa1407647

Supplementary appendix

Human Infection with a Zoonotic Orthopoxvirus in the Country of Georgia

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Methods

Investigation design and oversight

All manuscript authors contributed to the conception and design of the investigation and data acquisition/analysis. CDC developed the initial manuscript draft, and all manuscript authors provided critical revisions and decided to publish the paper. Neil Vora takes responsibility for the integrity of the data and the accuracy of the data analysis.

Small mammal identification

Determination of small mammal genus and species was performed using Sanger sequencing and BLAST analysis of a 400 base pair segment of the cytochrome b mitochondrial locus.

Biosafety

Standard precautions were used when collecting biologic specimens from humans and cattle.[1] Additional precautions, including use of powered air purifying respirators, were used when processing small mammals. Laboratory workers who directly handled cultures infected with orthopoxviruses had previously received smallpox vaccination.[2]

Results

Epidemiologic investigation

Among the 22 persons with anti-orthopoxvirus IgG, 3 denied history of smallpox vaccination. One of these 3 persons had an IgG end-point titer of 1:160 and was born in 1981 (routine smallpox vaccination was discontinued in Georgia before 1981). The 2 other persons had IgG end-point titers of 1:2560 and 1:640 and were born in 1978 and 1979, respectively. Of note, the person with the titer of 1:2560 was the brother of one of the index patients and had tended to the index herd. Three additional persons aged between 47–88 years, all of whom reported history of smallpox vaccination, had IgG end-point titers as high as 1:2560.

Table S1. Serologic data among captured small mammals

Small mammal	Animal type	Number captured	Anti-orthopoxvirus IgG		
			Number negative (%)	Number positive with end-point titer 1:200 (%)	Number positive with end-point titer ≥1:400 (%)
Apodemus spp.	Rodent	18	16 (89)	2 (11)	0
Dryomys sp.	Rodent	1	0	0	1 (100)
Microtus spp.	Rodent	10	4 (40)	3 (30)	3 (30)
Mus musculus	Rodent	2	2 (100)	0	0
Crocidura spp.	Shrew	3	0	0	3 (100)

sp.: species (singular); spp.: species (plural)

References

1. Siegel JD, Rhinehart E, Jackson M, Chiarello L, Healthcare Infection Control Practices Advisory Committee. 2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings (http://www.cdc.gov/hicpac/pdf/isolation/Isolation2007.pdf).
2. Rotz LD, Dotson DA, Damon IK, Becher JA. Vaccinia (Smallpox) Vaccine Recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 2001;50(RR10):1-25.